

# Chapter 5:

# *Groundwater*



2002 Edition



# Chapter 5: Groundwater

## Introduction

The New Hampshire Legislature officially declared through RSA 481 (“State Dams, Reservoirs, and Other Water Conservation Projects”, <http://gencourt.state.nh.us/rsa/html/indexes/481.html>) that surface water and groundwater represent an integrated public resource to be conserved, protected, and managed for the public good. Under the Public Trust Doctrine, the State of New Hampshire holds both surface water and groundwater in trust for the benefit of the public. However, the rights of the public are subject to the rights held by owners of properties that are adjacent to surface water or which lie over groundwater to make “reasonable use” of the water. If a property owner’s use of this finite natural resource becomes excessive (*i.e.*, unreasonable), lawsuits typically ensue to determine the rights of the various interests to use the resource. In addition to this legal limitation on the amount of water that can be withdrawn, naturally-occurring features also may impose restrictions. Subsurface geology plays a major role in the availability of groundwater. The saturated thickness of subsurface soils and the type of water-bearing (aquifer) material (*e.g.*, gravel, sand, silt) are factors, as are the areal extent of the aquifer, the recharge rate of water into the aquifer from precipitation and nearby surface waters; and the number, size, and interconnectedness of bedrock fractures beneath the overlying soils. Different aspects of groundwater management are regulated by four programs at DES: the Drinking Water Source Protection Program and the Water Supply Engineering Bureau in the DES Water Division, the New Hampshire Geological Survey in the DES Commissioner’s Office, and the Hazardous Waste Remediation Bureau in the DES Waste Management Division.

## Groundwater Withdrawals

Since 1987, all groundwater withdrawals that average 20,000 gallons per day or more (averaged over any seven-day period) must be registered with what is now the New Hampshire Geological Survey office at DES (see <http://www.des.state.nh.us/factsheets/geo/geo-4.htm>). Other aspects of groundwater withdrawals are regulated by DES through its Drinking Water Source Protection Program. DES has regulated new groundwater withdrawals for public community water systems since 1991 to ensure that these wells have a sustainable yield and are sited in appropriate places. More recently, in 1998, the New Hampshire Legislature enacted RSA 485-C:21 (“Groundwater Protection Act/Approval for Large Groundwater Withdrawals”, <http://gencourt.state.nh.us/rsa/html/L/485-C/485-C-21.htm>) to direct DES to regulate all new groundwater withdrawals of 57,600 or more gallons in any 24-hour period to prevent adverse impacts to surrounding water resources such as wetlands, streams, rivers, neighboring wells, *etc.* (see <http://www.des.state.nh.us/factsheets/ws/ws-22-11.htm>). DES has adopted NH CODE ADMIN. RULES Env-Ws 387 (“Minor Groundwater Withdrawal”, [http://www.des.state.nh.us/dwspp/adopt\\_387.pdf](http://www.des.state.nh.us/dwspp/adopt_387.pdf)) and Env-Ws 388 (“Major Groundwater Withdrawal”, [http://www.des.state.nh.us/dwspp/adopt\\_388.pdf](http://www.des.state.nh.us/dwspp/adopt_388.pdf)) to establish the permitting program for these Large Groundwater Withdrawals. Registered groundwater withdrawals within 500 feet of rivers designated for protection under RSA 483 (“New Hampshire Rivers Management and Protection Program”, <http://gencourt.state.nh.us/rsa/html/indexes/483.html>) may be subject to limits during periods of low stream flow (see <http://www.des.state.nh.us/rivers/instream/>).

## Discharges to Groundwater

The Groundwater Discharge Permitting and Registration Program within the DES Water Supply Engineering Bureau processes applications for the Holding Tank Registrations, Non-Domestic Wastewater Discharge Registrations, Underground Injection Control Registrations for Floor Drains, Temporary Groundwater Discharge Permits, and Groundwater Discharge Permits (see <http://www.des.state.nh.us/dwspp/gwdisch.htm>). This program is concerned with the proper treatment and disposal of wastewater onto (or into) the ground. The focus is to prevent contamination of groundwater by the improper disposal of wastes and wastewaters containing solvents, petroleum products, and other industrial and commercial contaminants. In all cases, the discharge of non-domestic (*i.e.*, commercial and industrial) wastewater containing regulated contaminants at greater than ambient (natural) concentrations is prohibited unless a permit is first obtained. A “regulated

contaminant” is defined by RSA 485-C:2, XIII as *any physical, chemical, biological, or radiological substance or other matter, other than naturally occurring substances at naturally occurring levels, in water which adversely affects human health or the environment* (“Groundwater Protection Act/Definitions”, <http://gencourt.state.nh.us/rsa/html/L/485-C/485-C-2.htm>). Discharges of non-domestic wastewater to lagoons or via land application also require a permit from this program. This program also implements federal regulations pertaining to underground injection control. The Underground Injection Control Registration for Floor Drains is issued to protect groundwater from being contaminated from this common source (see <http://www.des.state.nh.us/factsheets/ws/ws-22-9.htm>). NH CODE ADMIN. RULE Env-Ws 1503.04(c) (“Groundwater Discharge Permit and Registration”, <http://www.des.state.nh.us/rules/ws1500.pdf>) prohibits floor drains in motor vehicle facilities and also bans large cesspools. Holding tanks that receive flow from floor drains where regulated contaminants are used or stored and those that will receive non-domestic, non-hazardous wastewater, must be registered with DES (see <http://www.des.state.nh.us/factsheets/ws/ws-22-8.htm>). A Temporary Groundwater Discharge Permit can be obtained to facilitate a one-time, short-term discharge of non-domestic wastewater at a remediation site to the ground or groundwater for up to four months, provided the water quality of the discharge meets DES’s Ambient Groundwater Quality Standards (see NH CODE ADMIN. RULE Env-Wm 1403.05, “Groundwater Management and Groundwater Release Detection Permits”, <http://www.des.state.nh.us/orcb/doclist/wm1403.pdf>). A Temporary Groundwater Discharge Permit can be used at a site where discharges from an underground petroleum storage tank dewatering project need to be managed (*Application for Temporary Groundwater Discharge Permit*, <http://www.des.state.nh.us/orcb/doclist/temporary.pdf>) or for the temporary discharge of drinking water system wastewater (e.g., filter backwash or tank cleaning water). A more long-term release proposed from a water treatment system that will continue to discharge as part of its regular operation must be registered by using the form entitled *Registration and Notification Form for Floor Drains and Discharges to Groundwater* (see <http://www.des.state.nh.us/pdf/floorreg.pdf>). A Groundwater Discharge Permit represents a more permanent type of authorization to facilitate long-term treatment and discharge of non-domestic wastewater through measured releases to the ground or groundwater, such as at wastewater treatment facilities or large septic systems that receive 20,000 gallons per day or more of wastewater. All of these permits have monitoring components that require surveillance of the impacts to ensure that the groundwater is not being negatively or irreversibly impacted by the process.

## Groundwater Remediation

For certain activities that pose a high risk of groundwater contamination or when the groundwater has been negatively impacted and is in need of remediation, the DES Waste Management Division’s Hazardous Waste Remediation Bureau is charged with reviewing applications for the Groundwater Release Detection Permits and Groundwater Management Permits, respectively (see <http://www.des.state.nh.us/hwrb/permits.htm>). Groundwater Release Detection Permits are required at hazardous waste disposal facilities, lined solid waste disposal facilities, lined wastewater disposal facilities, and at facilities that process soils contaminated with petroleum products. They also may be required for some facilities located in a “GAA” wellhead protection area (see <http://www.des.state.nh.us/factsheets/ws/ws-22-3.htm>). Groundwater Release Detection Permits are issued as a preventative measure (i.e., monitoring is required to detect any contaminants that may be released to promptly implement corrective measures) and are not required at sites where a Groundwater Management Permit is in effect. Groundwater Management Permits are required at locations where DES’s Ambient Groundwater Standards have been exceeded (see <http://www.des.state.nh.us/orcb/doclist/wm1403.pdf>). These permits require periodic groundwater quality monitoring and reporting to measure the effectiveness of groundwater remediation (either through active measures or natural attenuation) that also is required by the permit, specify performance standards for remedies, and describe procedures for performing site investigations and implementing remedial action plans (see <http://www.des.state.nh.us/orcb/doclist/rcmp.pdf>). Depending upon the severity of contamination and the time needed for remediation and monitoring, DES may impose Activity and Use Restrictions (“AURs”) on certain properties based on specific site criteria (see <http://www.des.state.nh.us/orcb/doclist/aurlist.pdf>).

## **Summary**

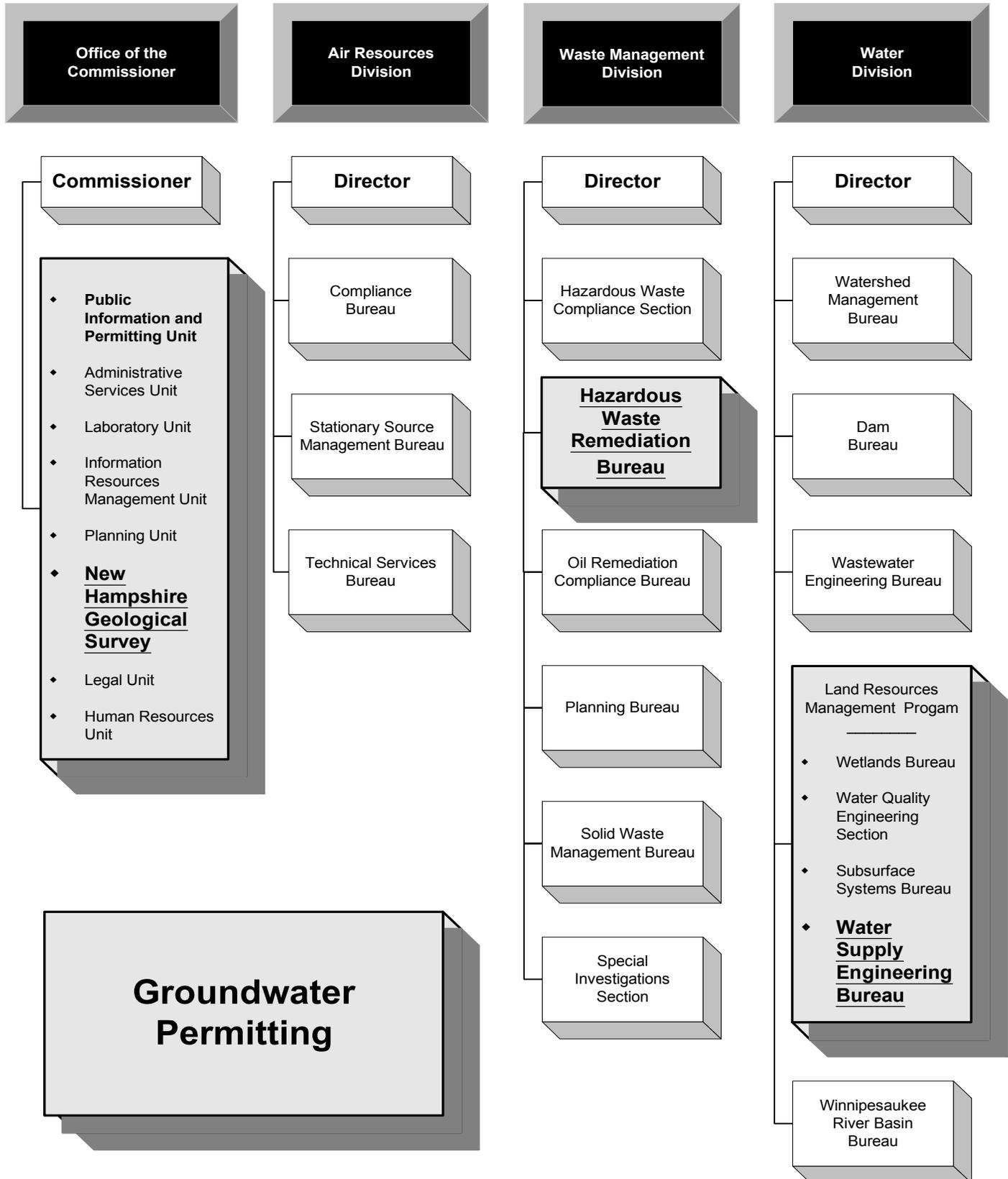
The regulation of New Hampshire's groundwater is shared by four programs within DES. In general, the planning, extraction, and use of this resource is charged to the Drinking Water Source Protection Program of the DES Water Division and the New Hampshire Geological Survey within the Office of the Commissioner. The protection of groundwater reserves lies with the Groundwater Discharge Permitting and Registration Program of the DES Water Supply Engineering Bureau. Appeals of permit decisions and orders issued for violations of program requirements should be directed to the Water Council (see <http://www.des.state.nh.us/councils/#1>). The regulation of contaminated groundwater and its remediation is charged to the DES Waste Management Division's Hazardous Waste Remediation Bureau ("HWRB"). Appeals of HWRB permit decisions and orders issued for violations of program requirements should be directed to the Waste Management Council (see <http://www.des.state.nh.us/councils/#waste>).

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# Organizational Chart

## New Hampshire Department of Environmental Services



## Large Groundwater Withdrawal (“Major”) Permit

**Introduction:** The New Hampshire Legislature officially declared through RSA 481 (“State Dams, Reservoirs, and Other Water Conservation Projects”, <http://gencourt.state.nh.us/rsa/html/indexes/481.html>) that surface water and groundwater represent an integrated public resource to be conserved, protected, and managed for the public good. Since 1987, all groundwater withdrawals that exceed 20,000 gallons per day (“gpd”) (averaged over a seven day period) have been required to be registered with DES (see <http://www.des.state.nh.us/factsheets/geo/geo-4.htm>). Since 1991, DES has regulated new groundwater withdrawals for community water systems to ensure their proper siting and long-term sustainable yield. In 1998, the Legislature RSA 485-C:21 (“Groundwater Protection Act/Approval for Large Groundwater Withdrawals”, <http://gencourt.state.nh.us/rsa/html/L/485-C/485-C-21.htm>), which directs DES to regulate all new groundwater withdrawals that exceed 57,600 gallons or more over any 24-hour period to prevent adverse impacts to surrounding water users or water resources. As a result, DES established the Large Groundwater Withdrawal Permit Program, which requires any person proposing a proponent of any new large withdrawal from a production well sited after July 1998 to apply for a permit (see <http://www.des.state.nh.us/factsheets/ws/ws-22-11.htm> and <http://www.des.state.nh.us/dwspp/lqwith.htm>). “Large groundwater withdrawals” are classified as either major or minor. DES defines a “major water withdrawal” (NH CODE ADMIN. RULES Env-Ws 388, “Major Groundwater Withdrawal”, [http://www.des.state.nh.us/dwspp/adopt\\_388.pdf](http://www.des.state.nh.us/dwspp/adopt_388.pdf)) as *one that has a maximum average withdrawal rate that exceeds 144,000 gpd or more (averaged over 30 days); or a maximum, 24-hour withdrawal of 57,600 gallons (or more) when DES has either denied, suspended, or revoked a “minor withdrawal” designation for the project pursuant to Env-Ws 387* (see [http://www.des.state.nh.us/dwspp/adopt\\_387.pdf](http://www.des.state.nh.us/dwspp/adopt_387.pdf)). The applicant must demonstrate that a proposed withdrawal will not adversely impact existing water users or water resources and, if it will, the applicant must develop and implement a mitigation plan. Other permitting requirements include public notification, withdrawal testing, and development of a conservation management plan that demonstrates the need for the proposed withdrawal. Permit holders are required to meter withdrawal volumes and may be required to monitor the water levels of peripheral wells, wetlands, or nearby surface water bodies. Also, any registered groundwater withdrawal within 500 feet of rivers protected under RSA 483 (“Rivers Management and Protection Program”, <http://www.gencourt.state.nh.us/rsa/html/indexes/483.html>) may be subject to limits during periods of low flow conditions (see <http://www.des.state.nh.us/rivers/instream/>).

**Average number of permits issued annually:** 5

**Fee:** None

**Estimated processing time after application is deemed “complete”:** Preliminary Application - 60 days; Final Report - 45 days; Final decision typically reached within 6-12 months (or more, depending upon the complexity of the water resources in the vicinity of the site)

**Permit duration:** 10 years

**Permit transferability:** The permit is transferable through a written request to DES. Compliance with the existing permit shall be established prior to ownership transfer. Requests shall identify the person to whom the permit will be transferred, including his/her address and signature of the current permittee.

**Permit modification:** Permits may be modified through a written request to DES.

**Permit renewal:** The permit is valid for ten years following its issuance. The permittee shall apply for renewal of this permit at least 90 days prior to its expiration date.

**State statutes:** RSA 485 (“New Hampshire Safe Drinking Water Act”, <http://gencourt.state.nh.us/rsa/html/indexes/485.html>) and RSA 485-C (“Groundwater Protection Act”, <http://gencourt.state.nh.us/rsa/html/indexes/485-C.html>)

**N. H. Code of Administrative Rules:** Env-Ws 388 (“Major Groundwater Withdrawal“, [http://www.des.state.nh.us/dwspp/adopt\\_388.pdf](http://www.des.state.nh.us/dwspp/adopt_388.pdf))

**Appeals body:** State Supreme Court under RSA 541 (“Rehearings and Appeals in Certain Cases“, <http://gencourt.state.nh.us/rsa/html/indexes/541.html>; see also <http://www.state.nh.us/courts/supreme.htm>)

**Additional information:** N. H. DES, Large Groundwater Withdrawal Program Manager, (603) 271-0660  
N. H. DES, Water Supply Engineering Bureau, (603) 271-2513  
N. H. DES, Public Information Center, (603) 271-2975 or (603) 271-8876

## Large Groundwater Withdrawal (“Major”) Permit – Work Sheet

**Key Qualifier Questions:** Will your new production well’s maximum average daily withdrawal (averaged over 30 days) exceed 144,000 gallons per day (“gpd”) ? Will the maximum, 24-hour withdrawal be 57,600 gallons or more over any 24-hour period in a situation where DES has denied, suspended, or revoked a “Minor” withdrawal designation under NH CODE ADMIN. RULES Env-Ws 387 (“Minor Groundwater Withdrawal”, [http://www.des.state.nh.us/dwspp/adopt\\_387.pdf](http://www.des.state.nh.us/dwspp/adopt_387.pdf)) ?

### What must you do to apply?

- Obtain a copy of the NH CODE ADMIN. RULES Env-Ws 388 (“Major Groundwater Withdrawal”, [http://www.des.state.nh.us/dwspp/adopt\\_388.pdf](http://www.des.state.nh.us/dwspp/adopt_388.pdf))
- Review the DES Fact Sheet entitled *Large Groundwater Withdrawals – Approval and Notification Requirements* (see <http://www.des.state.nh.us/factsheets/ws/ws-22-11.htm>).
- Demonstrate the need for the withdrawal by completing a conservation management plan and description of need (see Env-Ws 388.05).
- Develop a conceptual hydrologic model of the withdrawal (Env-Ws 388.06).
- Complete a preliminary water resource and use inventory (Env-Ws 388.07).
- Estimate the effects of the withdrawal on water resources and uses (Env-Ws 388.08).
- Design a withdrawal-testing program (Env-Ws 388.09).
- Submit a major withdrawal permit application (Env-Ws 388.10).
- Perform public notification (Env-Ws 388.11).
- If desired, request and attend a pre-testing conference with DES (Env-Ws 388.12).
- Complete withdrawal testing in accordance with Env-Ws 388.13.
- Refine the conceptual hydrologic model and study area for the withdrawal (Env-Ws 388.14).
- Update and revise the inventory of water resources and uses based on testing results (Env Ws 388.15).
- Describe impacts to water resources and uses (Env-Ws 388.16).
- Submit a report completed in accordance with Env-Ws 388.17.
- When observations under operating conditions are necessary to validate test results and verify that adverse impacts will not occur, develop and obtain approval for an impact monitoring and reporting program (Env-Ws 388.20).
- When an adverse impact as identified in Env-Ws 388.18 is anticipated to occur as a result of the withdrawal (e.g., reduction in withdrawal capacity of a public water supply, reduction of surface water levels or flows, a net loss of wetland values, encroachment of contaminated groundwater plumes from a remediation site, etc.), complete the following:
  - Reduce the proposed production volume of the withdrawal in accordance with Env-Ws 388.14(b) to a level where no adverse impacts are anticipated, or
  - Design and implement mitigation measures (Env-Ws 388.21).
- When an adverse impact occurs as identified in Env-Ws 388.18 as a result of the withdrawal design, implement mitigation measures (Env-Ws 388.21).
- Submit all correspondence to: Source Water Protection Program, Water Division, New Hampshire Department of Environmental Services, 6 Hazen Drive, P. O. Box 95, Concord, NH 03302-0095. Telephone: (603) 271-0660 or (603) 271-2513; fax: (603) 271-0656; or online: <http://www.des.state.nh.us/dwspp/>

### What types of projects require this permit?

- ❖ Drinking water supply wells
- ❖ Bottled water companies
- ❖ Beverage production facilities

- ❖ Golf courses, recreation fields, ski areas, schools
- ❖ Agricultural operations
- ❖ Manufacturing facilities
- ❖ Mining operations
- ❖ Electric power generation plants

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If there are questions regarding this page or any other section of the Guidebook, please contact Tim Drew, Administrator, Public Information and Permitting Unit, at [tdrew@des.state.nh.us](mailto:tdrew@des.state.nh.us) or at (603) 271-3306.

## Large Groundwater Withdrawal (“Minor”) Permit

**Introduction:** The New Hampshire Legislature officially declared through RSA 481 (“State Dams, Reservoirs, and Other Water Conservation Projects”, <http://gencourt.state.nh.us/rsa/html/indexes/481.html>) that surface water and groundwater represent an integrated public resource to be conserved, protected, and managed for the public good. Since 1987, all groundwater withdrawals of 20,000 gallons or more per day (“gpd”) (averaged over a seven day period) have been required to be registered with DES (see <http://www.des.state.nh.us/factsheets/geo/geo-4.htm>). Since 1991, DES has regulated new groundwater withdrawals for community water systems to ensure their proper siting and long-term sustainable yield. In 1998, the Legislature enacted RSA 485-C:21 (“Groundwater Protection Act/Approval for Large Groundwater Withdrawals”, <http://gencourt.state.nh.us/rsa/html/L/485-C/485-C-21.htm>), which directs DES to regulate all new groundwater withdrawals of 57,600 gpd or more during any 24-hour period to prevent adverse impacts to surrounding water resources. As a result, DES established the Large Groundwater Withdrawal Permit Program, which required a developer of any new withdrawal from a large production well sited after July 1998 to apply for a permit (<http://www.des.state.nh.us/factsheets/ws/ws-22-11.htm> and <http://www.des.state.nh.us/dwspp/lqwith.htm>). “Large groundwater withdrawals” are classified as major or minor. DES defines a “minor water withdrawal” (NH CODE ADMIN. RULES Env-Ws 387, “Minor Groundwater Withdrawal”, [http://www.des.state.nh.us/dwspp/adopt\\_387.pdf](http://www.des.state.nh.us/dwspp/adopt_387.pdf)) based on four criteria: (1) *the maximum 24-hour withdrawal will be at least 57,600 gallons*, (2) *the maximum average-day withdrawal (averaged over a 30-day period) is less than 144,000 gallons per day*, (3) *available information indicates that the withdrawal will not result in adverse impacts to other wells or water bodies*, and (4) *the withdrawal is not located in a high-use area as determined by DES*. The applicant must demonstrate that a proposed withdrawal will not adversely impact existing water users or water resources and, if it will, the applicant must develop and implement a mitigation plan. Other permitting requirements include public notification, withdrawal testing, and development of a conservation management plan that demonstrates the need for the proposed withdrawal. Permit holders are required to meter withdrawal volumes, and may be required to monitor the water levels of peripheral wells, wetlands, or nearby surface water bodies. Also, any registered groundwater withdrawal within 500 feet of rivers protected by RSA 483 (“Rivers Management and Protection Program”, <http://gencourt.state.nh.us/rsa/html/indexes/483.html>) may be subject to limits during periods of low flow conditions (see <http://www.des.state.nh.us/rivers/instream/>).

**Average number of permits issued annually:** 5

**Fee:** None

**Estimated processing time after application is deemed "complete":** Preliminary Application - 60 days; Final Report - 45 days; Final decision typically reached within 6-12 months (or more, depending upon the complexity of the water resources in the vicinity of the site)

**Permit duration:** 10 years

**Permit transferability:** The permit is transferable through a written request to DES. Compliance with the existing permit shall be established prior to ownership transfer. Requests shall identify the person to whom the permit will be transferred, including his/her address and signature of the current permittee.

**Permit modification:** Permits may be modified through a written request to DES.

**Permit renewal:** The permit is valid for ten years following its issuance. The permittee shall apply for renewal of this permit at least 90 days prior to its expiration date.

**State statutes:** RSA 485 (“New Hampshire Safe Drinking Water Act”, <http://gencourt.state.nh.us/rsa/html/indexes/485.html>) and RSA 485-C (“Groundwater Protection Act”, <http://gencourt.state.nh.us/rsa/html/indexes/485-C.html>)

**N. H. Code of Administrative Rules:** Env-Ws 387 (“Minor Groundwater Withdrawal”, [http://www.des.state.nh.us/dwspp/adopt\\_387.pdf](http://www.des.state.nh.us/dwspp/adopt_387.pdf))

**Appeals body:** State Supreme Court under RSA 541 (“Rehearings and Appeals in Certain Cases”, <http://gencourt.state.nh.us/rsa/html/indexes/541.html>; see also <http://www.state.nh.us/courts/supreme.htm>)

**Additional information:** N. H. DES, Large Groundwater Withdrawal Program Manager, (603) 271-0660  
N. H. DES, Water Supply Engineering Bureau, (603) 271-2513  
N. H. DES, Public Information Center, (603) 271-2975 or (603) 271-8876

## Large Groundwater Withdrawal (“Minor”) Permit – Work Sheet

**Key Qualifier Question:** Will the proposed project involve the installation of a new production well and include the development of a new groundwater withdrawal of 57,600 gallons or more over any 24-hour period which does not qualify as a “Major” withdrawal and which is not associated with site remediation or a temporary short-term use such as construction dewatering?

### What must you do to apply?

- Obtain a copy of the NH CODE ADMIN. RULES Env-Ws 387 (“Minor Groundwater Withdrawal”, [http://www.des.state.nh.us/dwspp/adopt\\_387.pdf](http://www.des.state.nh.us/dwspp/adopt_387.pdf))
- Review the DES Fact Sheet entitled *Large Groundwater Withdrawals – Approval and Notification Requirements* (see <http://www.des.state.nh.us/factsheets/ws/ws-22-11.htm>).
- Demonstrate the need for the withdrawal by completing a conservation management plan and description of need (see Env-Ws 387.05).
- Estimate the study area for the withdrawal (Env-Ws 387.06).
- Complete a water resource and use inventory of the study area (Env-Ws 387.07).
- Design a withdrawal-testing program (Env-Ws 387.08).
- Submit a request for minor withdrawal designation (Env-Ws 387.09).
- Perform public notification (Env-Ws 387.10).
- Based on a hydrologic evaluation performed by DES (Env-Ws 387.11), obtain approval for a minor withdrawal designation (Env-Ws 387.12).
- Complete withdrawal testing (Env-Ws 387.13).
- If withdrawal testing verifies a minor withdrawal designation, submit a minor withdrawal permit application completed in accordance with Env-Ws 387.14, to include:
  - Maximum withdrawal volumes being requested
  - Applicant’s name, mailing address, and telephone number
  - An update of, and explanation for, any changes in the minor withdrawal designation request
  - A description of public notification activities
  - Withdrawal testing program results
  - Justification of any alternate methods used to estimate the study area or to complete withdrawal testing
  - For new community water supply systems, the final well siting report as specified by Env-Ws 379 (“Site Selection of Large Production Wells for Community Water Systems”, <http://www.des.state.nh.us/rules/enws379.pdf>)
  - For new groundwater sources of bottled water, submit the well siting report specified by Env-Ws 389 (“Groundwater Sources of Bottled Water”, <http://www.des.state.nh.us/rules/enws389.pdf>)
- If withdrawal testing does not verify minor withdrawal designation:
  - Collect and submit additional information that does verify minor withdrawal designation; or
  - Apply for a Large Groundwater Withdrawal (“Major”) Permit in accordance with Env-Ws 388 (“Major Groundwater Withdrawal”, [http://www.des.state.nh.us/dwspp/adopt\\_388.pdf](http://www.des.state.nh.us/dwspp/adopt_388.pdf)).
- Submit all correspondence to: Source Water Protection Program, Water Division, New Hampshire Department of Environmental Services, 6 Hazen Drive, P. O. Box 95, Concord, NH 03302-0095. Telephone: (603) 271-0660 or (603) 271-2513; fax: (603) 271-0656; or online: <http://www.des.state.nh.us/dwspp/>

### What types of projects require this permit?

- ❖ Drinking water supply wells
- ❖ Bottled water companies
- ❖ Beverage production facilities
- ❖ Golf courses, recreation fields, ski areas, schools

- ❖ Agricultural operations
- ❖ Manufacturing facilities
- ❖ Mining operations
- ❖ Electric power generation plants
- ❖ Any other water use that requires greater than 57,600 gallons over any 24-hour period

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If there are questions on this page or any other section of the Guidebook, please contact Tim Drew, Administrator, Public Information and Permitting Unit, at [tdrew@des.state.nh.us](mailto:tdrew@des.state.nh.us) or at (603) 271-3306.

## Underground Injection Control Registration for Floor Drains

**Introduction:** The Underground Injection Control (“UIC”) Registration for Floor Drains is intended to protect groundwater from being contaminated as a result of releases to the environment from commercial and industrial operations. Such discharges have occurred historically and have cost hundreds of thousands of dollars for the remediation of groundwater reserves, the state’s primary source of drinking water. Unlike the DES Holding Tank Registration, the UIC Registration for Floor Drains is used where a facility discharges non-domestic, non-hazardous wastewater that contains no “regulated contaminants” or sanitary wastewater onto or into the ground. A “regulated contaminant” is defined by RSA 485-C:2, XIII as *any physical, chemical, biological, radiological substance or other matter, other than naturally occurring substances at naturally occurring levels, in water which adversely affects human health or the environment* (see “Groundwater Protection Act/Definitions”, <http://gencourt.state.nh.us/rsa/html/L/485-C/485-C-2.htm>). The UIC Registration for Floor Drains is administered by the DES Drinking Water Source Protection Program (see <http://www.des.state.nh.us/dwspp/gwdisch.htm>) under NH CODE ADMIN. RULE Env-Ws 1508 (see <http://www.des.state.nh.us/rules/ws1500.pdf>). The facility owner must first determine whether the floor drain lies an area where regulated contaminants are used or stored. If regulated contaminants will not be used or stored in the area of the facility containing the floor drains and the floor drains will remain open, the *Floor Drain Registration* must be filed with the DES UIC Program (see <http://www.des.state.nh.us/pdf/floorreg.pdf>). If regulated contaminants are or will be used or stored in an area of the facility, the floor drains must be sealed, must discharge to a holding tank which also must be registered with DES (see the description for “Holding Tank Registration” provided elsewhere in this chapter), or must discharge to municipal sanitary sewer. If a floor drain is to be sealed, the facility owner must first determine whether a regulated contaminant has ever been discharged through it to the environment. If not, the drain can be sealed with concrete and the DES *Floor Drain Closure Notification* form must be filed with the DES UIC Program certifying that the drain has been permanently closed (see the latter section of the *Floor Drain Registration* form noted above). Examples of discharges authorized through this registration include non-contact cooling water, beauty salon wastewater, kennel wastewater, and discharges from bathroom floor drains (see <http://www.des.state.nh.us/factsheets/ws/ws-22-9.htm>).

**Average number of registrations issued annually:** 50-75

**Fee:** None

**Estimated processing time after registration is deemed “complete”:** 2 weeks

**Registration duration:** Indefinite, based on continued compliance

**Registration transferability:** Since the registration is issued to the property owner, he/she must provide written notification of transfer to DES, including the new owner’s name and mailing address, within 10 days of the ownership transfer. The new owner must re-register the facility within 30 days of purchase.

**Registration modification:** A new registration must be submitted to DES that clearly states and provides the rationale for any proposed changes to the quality or quantity of the wastewater.

**Registration renewal:** None required

**State statute:** RSA 485:3, X (“New Hampshire Safe Drinking Water Act/Drinking Water Rules”, <http://gencourt.state.nh.us/rsa/html/L/485/485-3.htm>)

**N. H. Code of Administrative Rules:** Env-Ws 1500 (“Groundwater Discharge Permit and Registration”, <http://www.des.state.nh.us/rules/ws1500.pdf>)

**Appeals body:** Water Council at RSA 21-0:7 (“Department of Environmental Services/Water Council”, <http://gencourt.state.nh.us/rsa/html/l/21-O/21-O-7.htm>; see also <http://www.des.state.nh.us/rules/env-wc200.pdf> and <http://www.des.state.nh.us/councils/#1>)

**Additional information:** N. H. DES, UIC Program Coordinator, (603) 271-2858  
N. H. DES, Water Supply Engineering Bureau, (603) 271-2513  
N. H. DES, Public Information Center, (603) 271-2975 or (603) 271-8876

## Underground Injection Control Registration for Floor Drains – Work Sheet

**Key Qualifier Question:** *Is non-domestic, non-hazardous wastewater that is free of “regulated contaminants” and human sanitary wastes, and that has been or will be generated as a result of commercial or industrial operations, currently being (or planned to be) discharged from you facility through a floor drain to the ground or ground surface?*

### What must you do to apply?

- Obtain a copy of the *Registration and Notification Form for Floor Drains and Discharges to Groundwater* from the DES Underground Injection Control (“UIC”) program, DES Public Information Center, or access it online at either <http://www.des.state.nh.us/pdf/floorreg.pdf> or <http://www.des.state.nh.us/factsheets/ws/ws-22-9.htm>.
- Provide all facility location information, including the owner’s name, address, and telephone number, and those of the contact person and property owner (if different).
- Determine whether the discharge currently is being released to the environment (e.g. septic system, drywell, or to the ground surface).
- Determine whether there are any “regulated contaminants” being used or stored in the work area by reviewing the Material Safety Data Sheets (“MSDSs”) for all products or reagents being used or stored and comparing the results with the criteria listed by NH CODE ADMIN. RULES Env-Ws 1500 (“Groundwater Discharge Permit and Registration”, <http://www.des.state.nh.us/rules/ws1500.pdf>).
- Prepare an original or color photocopy of a U. S. Geological Survey map (7½-minute series, if available) that clearly identifies the facility’s location (see <http://www.topozone.com>).
- Prepare a site plan that depicts the location of the building and that of the floor drains or other discharge points on the property.
- Provide a description of the anticipated discharge quality, including analytical results (if available), and volume of wastewater to be discharged through the floor drains.
- Draft a plan that describes the disposal method, including how and where the wastewater is proposed to be discharged, and include a sketch of any infiltration structures and/or dimensions of any injection well proposed for this purpose.
- Provide a complete description of the discharge rate, discharge volume, and schedule for periodical discharges.
- If the regulated contaminants are used or stored in the area containing the floor drains, five options are available:
  - Eliminate regulated contaminants from the wastewater (if a floor drain) or eliminate the use and/or storage of regulated contaminants within the area served by the floor drain and submit a *Floor Drain Registration* to DES (see <http://www.des.state.nh.us/factsheets/ws/ws-22-9.htm>)
  - Permanently seal the floor drain to prevent releases to groundwater (see below)
  - Connect the drain or discharge line to a municipal sanitary sewer in accordance with DES and local regulations
  - Connect the drain or discharge to a Registered Holding Tank that meets DES requirements (see <http://www.des.state.nh.us/factsheets/ws/ws-22-8.htm>)
  - Obtain a DES Groundwater Discharge Permit
- If the floor drain has never released regulated contaminants to the environment and it is to be closed:
  - Provide notice and plans to DES describing the proposed floor drain closure.
  - Describe where the drain previously discharged (surface water, septic system, storm drain, unknown, etc.) and submit a *Floor Drain Closure Notification* (see the latter section of the *Floor Drain Registration* form, <http://www.des.state.nh.us/pdf/floorreg.pdf>) with all supporting materials to DES (see <http://www.des.state.nh.us/factsheets/ws/ws-22-9.htm>).
  - After drain has been permanently sealed, provide color photographs of the sealed drain accompanied by a copy of the original *Floor Drain Closure Notification* to DES.

- Submit the completed forms and all supporting materials to: Underground Injection Control Program, Water Division, New Hampshire Department of Environmental Services, 6 Hazen Drive, P. O. Box 95, Concord, NH 03302-0095. Telephone: (603) 271-2858 or (603) 271-2513; fax: (603) 271-5171; or online: <http://www.des.state.nh.us/dwspp/gwdisch.htm>

### **What types of projects require this registration? <sup>1</sup>**

- ❖ Beauty salons
- ❖ Veterinary clinics
- ❖ Kennels/animal boarding facilities
- ❖ Non-contact cooling water discharges
- ❖ Water treatment system backwash from public water systems

Note 1: The types of discharges listed above are registered to discharge without treatment. DES reviews the Material Safety Data Sheets (“MSDSs”) provided with the application on a case-by-case basis to evaluate the potential of a regulated contaminant entering the waste stream from a certain type of facility (e.g., dog kennel, beauty salon, etc.). If there is a chance that a regulated contaminant will enter the waste stream from such a facility’s operations, then this registration is denied and an application for a Groundwater Discharge Permit (discussed elsewhere in this chapter) is required, which includes conditions for treatment and monitoring.

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If there are questions regarding this page or any other section of the Guidebook, please contact Tim Drew, Administrator, Public Information and Permitting Unit, at [tdrew@des.state.nh.us](mailto:tdrew@des.state.nh.us) or at (603) 271-3306.

## Holding Tank Registration

**Introduction:** The DES Holding Tank Registration is intended as a means to protect groundwater reserves from being contaminated as a result of uncontrolled releases to the environment from commercial and industrial operations. This Registration is designed to regulate the capture of non-domestic wastewaters that typically flow through floor drains or work sinks in an area where a “regulated contaminant” is used or stored. If regulated contaminants are not used or stored in the area, an Underground Injection Control Registration for Floor Drains is required. A “regulated contaminant” is defined by RSA 485-C:2, XIII as *any physical, chemical, biological, radiological substance or other matter, other than naturally occurring substances at naturally occurring levels, in water which adversely affects human health or the environment* (see “Groundwater Protection Act/Definitions”, <http://gencourt.state.nh.us/rsa/html/L/485-C/485-C-2.htm>). Specifically targeted are wastewaters generated from other than human sanitary sources, including those that are mixtures of commercial and/or industrial wastes and human sanitary wastes. The Holding Tank Registration is applied in instances where a service connection to a sanitary sewer is not feasible as a means for proper wastewater disposal. It is administered by the DES Underground Injection Control (“UIC”) Program (see <http://www.des.state.nh.us/dwspp/gwdisch.htm>) and is regulated by NH CODE ADMIN. RULE Env-Ws 1508 (see <http://www.des.state.nh.us/rules/ws1500.pdf>). To qualify for this registration, the discharge must be characterized as non-domestic and non-hazardous (see <http://www.des.state.nh.us/pdf/holdreg.pdf>). Holding tanks must have a minimum capacity of 1,000 gallons, be watertight, structurally sound, and have an audio and visual alarm system installed that will indicate when pumping is required (see <http://www.des.state.nh.us/factsheets/ws/ws-22-8.htm>). Wastewater collected in a registered holding tank must be pumped on a regular schedule (specified by the registration), transported to a wastewater treatment facility for pretreatment (if required), and then finally disposed. Information collected is used to help identify, prevent, or eliminate sources of contamination in both wellhead and source water protection areas (see <http://www.des.state.nh.us/factsheets/ws/ws-12-5.htm>).

**Average number of registrations issued annually:** 15

**Fee:** None

**Estimated processing time after application is deemed “complete”:** 30 days

**Registration duration:** Indefinite, based on continued need for the holding tank

**Registration transferability:** Since the registration is issued to the property owner, he/she must provide written notification of transfer to DES, including the new owner’s name and mailing address, within 10 days of the ownership transfer. The new owner must also re-register the facility within 30 days of purchase.

**Registration modification:** If changes are desired, the owner must file a new registration application with DES to clearly provide the design of, and rationale for, the proposed changes to the holding tank, its piping system, or other associated appurtenances. Before any changes may occur, a new registration must be issued.

**Registration renewal:** None required

**State statutes:** RSA 485:3, X (“New Hampshire Safe Drinking Water Act/Drinking Water Rules/Underground Injection Control Program”, <http://gencourt.state.nh.us/rsa/html/L/485/485-3.htm>) and RSA 485-A:13 (“Water Pollution and Waste Disposal/Water Discharge Permits”, <http://gencourt.state.nh.us/rsa/html/L/485-A/485-A-13.htm>)

**N. H. Code of Administrative Rules:** Env-Ws 1500 (“Groundwater Discharge Permit and Registration”, <http://www.des.state.nh.us/rules/ws1500.pdf>)

**Appeals body:** Water Council at RSA 21-0:7 (“Department of Environmental Services/Water Council”, <http://gencourt.state.nh.us/rsa/html/l/21-O/21-O-7.htm>; see also <http://www.des.state.nh.us/rules/env-wc200.pdf> and <http://www.des.state.nh.us/councils/#1>)

**Additional information:** N. H. DES, UIC Program Coordinator, (603) 271-2858  
N. H. DES, Water Supply Engineering Bureau, (603) 271-2513  
N. H. DES, Public Information Center, (603) 271-2975 or (603) 271-8876

## Holding Tank Registration – Work Sheet

**Key Qualifier Question:** Will commercial or industrial non-domestic, non-hazardous wastewaters be generated and discharged through a floor drain, work sink, or other similar release point, located in an area where “regulated contaminants” are used or stored?

### What must you do to apply?

- Obtain a copy of the *Holding Tank Registration Form* from the DES Underground Injection Control (“UIC”) program, DES Public Information Center, or online at either <http://www.des.state.nh.us/pdf/holdreg.pdf> or <http://www.des.state.nh.us/factsheets/ws/ws-22-8.htm>.
- Provide all facility location information, including the owner’s name, address, and telephone number, and those of the contact person and property owner (if different).
- Determine whether the discharge currently is being released to the environment (e.g. septic system, drywell, or to the ground surface).
- Determine whether there are any “regulated contaminants” being used or stored in the work area by reviewing the Material Safety Data Sheets (“MSDSs”) for all products or reagents being used or stored and compare the results with the criteria listed by NH CODE ADMIN. RULES Env-Ws 1500 (“Groundwater Discharge Permit and Registration”, <http://www.des.state.nh.us/rules/ws1500.pdf>).
- Prepare an original or color photocopy of a U. S. Geological Survey map (7½-minute series, if available) that clearly identifies the facility location (see <http://www.topozone.com>).
- Prepare a site plan that depicts the location of the building and that of the holding tank on the property.
- Provide a description of the anticipated discharge quality, including analytical results (if available), and volume of wastewater to be discharged to the holding tank.
- Prepare a plan that describes the frequency of disposal, method of transport, and the location of final disposal for the collected wastewater, its residual solids, and any other related by-products generated.
- Prepare a complete description of the commercial or industrial facility and types of wastes or wastewaters handled there.
- Prepare design plans which meet the following requirements:
  - Minimum holding tank capacity must be 1,000 gallons
  - Tank and piping system must be watertight and compatible with the liquids or sludges being stored
  - Access for cleaning and inspection must be provided to each tank compartment via removable cover or manhole at least 20 inches in diameter. Manholes must extend to finished grade.
  - Tank must be designed for the expected maximum structural load, with ballast provided to prevent structural damage when tank is emptied
  - Audio and visual alarms must be installed and be set to activate once the fluid reaches 80 percent of the maximum storage capacity
- Submit the completed application and all supporting materials to: Underground Injection Control Program, Water Division, New Hampshire Department of Environmental Services, 6 Hazen Drive, P. O. Box 95, Concord, NH 03302-0095. Telephone: (603) 271-2858 or (603) 271-2513; fax: (603) 271-5171; or online: <http://www.des.state.nh.us/dwspp/qwdisch.htm>

### What types of projects require this registration?

- ❖ All motor vehicle service and maintenance facilities, vehicle storage buildings, and auto body/auto painting operations that have floor drains or work sinks
- ❖ Drive-through automobile lubrication facilities, “zero-discharge” car washes, and new and/or used auto dealerships where floor drains are proposed
- ❖ Industrial unit process discharges that have floor drains or work sinks
- ❖ Laboratories that have floor drains or work sinks

If there are questions regarding this page or any other section of the Guidebook, please contact Tim Drew, Administrator, Public Information and Permitting Unit, at [tdrew@des.state.nh.us](mailto:tdrew@des.state.nh.us) or at (603) 271-3306.

## Groundwater Release Detection Permit

**Introduction:** Groundwater represents the primary source of drinking water for more than 60 percent of the state's households. To protect this valuable underground resource, the DES Groundwater Release Detection Permit was created to serve as an early warning system for detecting the release of contaminants and their movement using monitoring wells and periodic groundwater analyses. Experience has shown that it is far more cost-effective to prevent groundwater contamination than it is to clean up this natural resource once degraded. If properly designed and operated, a series of monitoring wells placed strategically around a site will warn of potential damage to groundwater reserves and will do so before the damage begins. Such an early warning allows time to prepare a response to stem the migration of contaminants, remove the source, and devise a strategy for preventing future contamination. This permit is required for the siting and operation of hazardous waste disposal facilities, lined solid waste landfills, lined wastewater lagoons, and at facilities that store and process soils contaminated with petroleum products. Other types of facilities also may need to obtain this permit if they are located in a Class GAA wellhead protection area (see <http://www.des.state.nh.us/factsheets/ws/ws-12-8.htm> and <http://www.des.state.nh.us/factsheets/ws/ws-22-3.htm>), including new solid waste composting facilities and solid waste resource recovery facilities, and certain existing activities, such as road salt storage facilities, snow dumps, and junkyards (which are prohibited as new uses in GAA wellhead protection areas (see RSA 485-C:12, "Groundwater Protection Act/Prohibited Uses", <http://gencourt.state.nh.us/rsa/html/L/485-C/485-C-12.htm>). More serious contamination sites or activities may require a Groundwater Discharge Permit pursuant to RSA 485-A:13 ("Water Pollution and Waste Disposal/Water Discharge Permits", <http://gencourt.state.nh.us/rsa/html/L/485-A/485-A-13.htm>). A Groundwater Release Detection Permit is not required for a facility or activity that already possesses a DES Groundwater Discharge Permit or Groundwater Management Permit.

**Average number of permits issued annually:** Approximately 5

**Fee:** \$1,000 (The application fee is waived for state, county and municipal government.)

**Estimated processing time after application is deemed "complete":** 90 days

**Permit duration:** 5 years

**Permit transferability:** Before ownership transfer, the permit holder must file with DES a written request and summary of all monitoring results to date. A *Groundwater Permit Transfer Application* form may be accessed at <http://www.des.state.nh.us/orcb/doclist/transfer.pdf>. DES will issue a written decision within 90 days.

**Permit modification:** The permit holder, or consultant working on his/her behalf, must submit a written request that discusses the modification being requested and the reason(s) for it, and must include a summary of all monitoring results to date. DES will issue a written decision within 90 days.

**Permit renewal:** If the activity requiring the permit will continue, the permit must be renewed. A renewal application must be filed 90 days in advance of permit expiration. The *Application for Renewal* form can be accessed at [http://www.des.state.nh.us/orcb/doclist/renewal\\_grdp.pdf](http://www.des.state.nh.us/orcb/doclist/renewal_grdp.pdf). Permit renewals are valid for five years.

**State statute:** RSA 485-C:13 ("Groundwater Protection Act/Groundwater Release Detection Permit", <http://gencourt.state.nh.us/rsa/html/L/485-C/485-C-13.htm>)

**N. H. Code of Administrative Rules:** Env-Wm 1403 ("Groundwater Management and Release Detection Permits", <http://www.des.state.nh.us/orcb/doclist/wm1403.pdf>)

**Appeals Body:** Waste Management Council at RSA 21-O:9 ("Department of Environmental Services/Waste Management Council", <http://gencourt.state.nh.us/rsa/html/I/21-O/21-O-9.htm>; see also <http://www.des.state.nh.us/rules/env-wmc200.pdf> and <http://www.des.state.nh.us/councils/#waste>)

**Additional information:**

N. H. DES, Groundwater Release Detection Permit Coordinator, (603) 271-2999

N. H. DES, Hazardous Waste Remediation Bureau, (603) 271-3644

N. H. DES, Public Information Center, (603) 271-2975 or (603) 271-8876

## Groundwater Release Detection Permit – Work Sheet

**Key Qualifier Question:** *Will the proposed facility or activity include a hazardous waste disposal facility, lined solid waste landfill, lined wastewater lagoon, or a facility for processing soil contaminated with petroleum products; or will the facility or activity (such as a new solid waste composting operation or an existing outdoor storage facility for deicing chemicals, junk/salvage yard, or snow dump) be located in a Class GAA wellhead protection area?*

### What must you do to apply?

- Obtain an *Application for a Groundwater Release Detection Permit* from the DES Hazardous Waste Remediation Bureau, DES Public Information Center, or online at <http://www.des.state.nh.us/orcb/doclist/reldet.pdf>.
- Identify the activity/facility as “proposed” or “existing”, and list the facility name, address, tax map/lot number, and deed reference.
- Prepare a U. S. Geological Survey map, 7-1/2 minute series (if available), which clearly identifies the facility location (see <http://www.topozone.com>).
- Prepare a map of potential receptors within 1,000 feet of the facility (using a tax map as a base) which identifies and locates all streets, adjacent properties (including tax map and lot number), ownership and land use information, physical structures, storage areas, and buildings (including information on building use and existence of basements), surface water bodies and water supply wells (including type of use).
- Provide the name and address of the facility owner (permit applicant), property owner (if different from permit applicant), facility operator (if different from facility owner), and contact person (if different from applicant/owner).
- Prepare a complete description of the facility, its intended capacity, types of wastes or wastewater handled, and description of the process involved in the treatment, storage, or disposal of wastes.
- Prepare a brief description of the precautions to be taken at the facility to prevent potential contamination. Include a description of the facility construction (liner types, diversion ditches, *etc.*) and management practices that will help to prevent potential waste disposal or leakage.
- Prepare an estimated construction timeline and projected start-up date.
- For industries, include all pertinent information, including Standard Industrial Classification (“SIC”) Code concerning processes, production, and associated waste treatment techniques.
- Prepare a detailed facility plan showing a title, legend, and true north arrow, drawn to scale (noted on the plan, including a graphic scale bar), with the base plan source noted on the document. The plan must also include the location, elevation, and datum of the benchmark. Depict ground surface spot elevations and contours.
- Prepare a site plan and describe (within 100 feet of the facility) the physical structures, storage areas, and buildings associated with the facility, existing and proposed groundwater monitoring wells, surface water sampling points, groundwater contours, surface water bodies, land surface contours, piezometers used to develop groundwater contours, a table of water level measurements and elevations found in piezometers and monitoring wells, soil borings and test pits, above- and underground storage tanks, underground utilities, and subsurface drains. Also prepare an 8½” x 11” (or 11” x 17”) site plan modified to make important items legible at that scale.
- Compile a table summarizing all monitoring results for the last five years from existing monitoring points.
- Prepare a list of reports on land use history, activities, water quality, and hydrogeology for the facility site.
- Provide detailed proposal for a water quality monitoring program, with proposed monitoring schedule, parameters to be analyzed, and monitoring locations with justification for locations, frequency, and parameters selected.

- Provide the test pit and boring log data including textural description, drilling methods, blow counts, and water table observation; and well construction details of existing monitoring wells, top of well casing elevations, and measured depth to water table from top of casing.
- Submit a check or money order for \$1,000, made payable to “Treasurer, State of New Hampshire”, with the application and all supporting materials as noted above to: Groundwater Release Detection Permit Coordinator, Hazardous Waste Remediation Bureau, Waste Management Division, New Hampshire Department of Environmental Services, 6 Hazen Drive, P. O. Box 95, Concord, NH 03302-0095. Telephone: (603) 271-2999; fax: (603) 271-2181; or online: <http://www.des.state.nh.us/orcb/>

### **What types of projects require this permit?**

- ❖ The siting and operation of a commercial hazardous waste disposal facility in New Hampshire
- ❖ The siting and operation of lined wastewater lagoons or lined solid waste landfills
- ❖ The siting and operation of a new solid waste composting facility or solid waste resource recovery facility in a Class GAA wellhead protection area
- ❖ The operation of an existing junk/auto salvage yard, snow dump, or outdoor storage facility for deicing chemicals in a Class GAA wellhead protection area

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If there are questions regarding this page or any other section of the Guidebook, please contact Tim Drew, Administrator, Public Information and Permitting Unit, at [tdrew@des.state.nh.us](mailto:tdrew@des.state.nh.us) or at (603) 271-3306.

## Temporary Groundwater Discharge Permit

**Introduction:** The Temporary Groundwater Discharge Permit is a nonrenewable permit issued for the temporary discharge to the ground or groundwater of non-domestic wastewater that has received treatment by best available technology (typically, granular activated carbon) including, but not limited to, the discharge generated from the rehabilitation or redevelopment of a public water supply well or the discharge generated from the dewatering of tank excavations (see <http://www.des.state.nh.us/dwsp/gwdisch.htm>). No discharge may contain regulated contaminants in a concentration greater than the ambient (natural) groundwater quality standards. A “regulated contaminant” is defined by RSA 485-C:2, XIII as *any physical, chemical, biological, or radiological substance or other matter, other than naturally occurring substances at naturally occurring levels, in water which adversely affects human health or the environment* (see “Groundwater Protection Act/Definitions”, <http://gencourt.state.nh.us/rsa/html/L/485-C/485-C-2.htm>). The permit establishes standards for discharge and requires specific laboratory analyses to verify that adequate treatment has indeed been achieved before release to the ground or groundwater. If issued, this permit remains valid for a period of not more than four months. A Temporary Groundwater Discharge Permit can be used at a site where discharges from an underground petroleum storage tank de-watering project need to be managed (*Application for Temporary Groundwater Discharge Permit*, <http://www.des.state.nh.us/orcb/doclist/temporary.pdf>) or for the temporary discharge of drinking water system wastewater (e.g., filter backwash or tank cleaning water). A copy of the completed application must be submitted to the town/city clerk of the municipality pursuant to RSA 541-A:39 (“Administrative Procedure Act/Notice to Municipalities”, <http://gencourt.state.nh.us/rsa/html/LV/541-A/541-A-39.htm>) before DES will process and issue a final decision on the application. Please note that a more long-term release proposed from a water treatment system that will continue to discharge as part of its regular operation must be registered by using the form entitled *Registration and Notification Form for Floor Drains and Discharges to Groundwater* (see <http://www.des.state.nh.us/pdf/floorreg.pdf>).

**Average number of permits issues annually:** 20

**Fee:** None

**Estimated processing time after application is deemed “complete”:** 15 days

**Permit duration:** 120 days

**Permit transferability:** Not transferable

**Permit modification:** Not modifiable

**Permit renewal:** Nonrenewable

**State statute:** RSA 485-A:13 (“Water Pollution and Waste Disposal/Water Discharge Permits”, <http://gencourt.state.nh.us/rsa/html/L/485-A/485-A-13.htm>)

**N. H. Code of Administrative Rules:** Env-Ws 1505 (Groundwater Discharge Permit and Registration”, <http://www.des.state.nh.us/rules/ws1500.pdf>)

**Appeals body:** Water Council at RSA 21-0:7 (“Department of Environmental Services/Water Council”, <http://gencourt.state.nh.us/rsa/html/I/21-O/21-O-7.htm>; see also <http://www.des.state.nh.us/rules/env-wc200.pdf> and <http://www.des.state.nh.us/councils/#1>)

**Additional information:** N. H. DES, Groundwater Discharge Permits Coordinator, (603) 271-2858  
N. H. DES, Water Supply Engineering Bureau, (603) 271-2513  
N. H. DES, Public Information Center, (603) 271-2975 or (603) 271-8876



## Temporary Groundwater Discharge Permit – Work Sheet

**Key Qualifier Questions:** (1) Will the discharge originate from non-domestic (i.e., commercial/industrial) sources and last less than 120 days, with final disposal to the groundwater via infiltration? (2) Will the discharge represent the product of drinking water well rehabilitation, groundwater remediation activities, or site dewatering?

### What must you do to apply?

- Obtain a copy of the *Application for Temporary Groundwater Discharge Permit* from the DES Water Supply Engineering Bureau, the DES Public Information Center, or online at <http://www.des.state.nh.us/orcb/doclist/temporary.pdf>.
- Prepare a complete description of the project and representative site plan, including all location information related to the facility, including identification of the facility's owner and operator.
- Prepare a description of the proposed discharge including the purpose of the discharge, location of the closest sanitary sewer, proposed discharge rate, and starting date for the discharge.
- Prepare a U. S. Geological Survey map (7½ minute series, if available) that clearly identifies the facility or site location (see <http://www.topozone.com>) and the location of the nearest sanitary sewer.
- Prepare a description of the type of treatment proposed, including a description of the wastewater type and information on the influent and effluent water quality, sludge, and other by-products generated.
- Determine what erosion control measures are to be used and determine whether a DES Site Specific Permit, Dam Permit, or other associated DES authorizations may be needed for the facility.
- Identify any wastewater treatment, neutralization, or de-chlorination processes to be used.
- Identify any chemicals to be used.
- Prepare a table that summarizes all monitoring results to date from existing monitoring points.
- Certify that the applicant agrees not to discharge until receiving written permission from DES.
- Provide certification to the host municipality (through a copy of the application materials) notifying local officials of the proposed facility and its operation pursuant to RSA 541-A:39 ("Administrative Procedure Act/Notice to Municipalities", <http://gencourt.state.nh.us/rsa/html/LV/541-A/541-A-39.htm>).
- Submit the *Temporary Groundwater Discharge Permit Application* and all supporting information as noted above to: Water Supply Engineering Bureau, Water Division, New Hampshire Department of Environmental Services, 6 Hazen Drive, P. O. Box 95, Concord, NH 03302-0095. Telephone: (603) 271-2513; fax: (603) 271-5171; or online: <http://www.des.state.nh.us/dwspp/gwdisch.htm>
- If the application is approved, the Temporary Groundwater Discharge Permit will be issued for not longer than four months.
- **Note:** As part of the permit's conditions, a soils analysis will be required following cessation of the temporary discharge.

### What types of projects require this permit and registration?

- ❖ Drinking water well rehabilitation projects
- ❖ Groundwater remediation sites
- ❖ Soil or dredged spoil dewatering projects
- ❖ Pump tests of contaminated groundwater

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If there are any questions regarding this page or any other section of the Guidebook, please contact Tim Drew, Administrator, Public Information and Permitting Unit, at [tdrew@des.state.nh.us](mailto:tdrew@des.state.nh.us) or at (603) 271-3306.



## Groundwater Discharge Permit

**Introduction:** The DES Water Supply Engineering Bureau administers the Groundwater Discharge Permit program and is concerned with the proper treatment and disposal of wastewater onto or into the ground (see <http://www.des.state.nh.us/dwspp/gwdisch.htm>). The focus is to prevent contamination of groundwater by the improper or uncontrolled disposal of wastes and/or wastewater. This permit is issued for the discharge of domestic wastewater (e.g., from large septic systems) of 20,000 gallons per day or more and/or for any domestic discharges that do not meet defined nitrate setbacks. (Nitrate setback requirements define how far back from property lines the disposal area should be to enable ambient (i.e., natural) groundwater limits to be achieved at the property boundary). The permit also applies to non-domestic wastewater discharges that contain one or more regulated contaminants and receive treatment by best available technology (typically, granular activated carbon). A “regulated contaminant” is defined by RSA 485-C:2, XIII as *any physical, chemical, biological, or radiological substance or other matter, other than naturally occurring substances at naturally occurring levels, in water which adversely affects human health or the environment* (see “Groundwater Protection Act/Definitions”, <http://gencourt.state.nh.us/rsa/html/L/485-C/485-C-2.htm>). Permit holders are required to sample groundwater according to a defined schedule and to perform specific laboratory analyses to assure that groundwater quality is maintained. In all instances, DES rules prohibit any discharge of non-domestic wastewater containing regulated contaminants above ambient (natural) groundwater standards without a permit. Typical facilities that require this permit include unlined septage and sludge lagoons, spray irrigation sites for treated wastewater, rapid infiltration basins, and large septic systems.

**Average number of permits issued annually:** 10

**Fee:** \$1,000

**Estimated processing time after application is deemed “complete”:** 60 days

**Permit duration:** 5 years, and is subject to renewal

**Permit transferability:** Compliance with the existing permit shall be established prior to ownership transfer. Written transfer requests shall include the name and address of the person to whom the permit transfer is requested, signature of the current permittee, and a summary of all monitoring results.

**Permit modification (or termination):** Permits may be modified or terminated through a written request to DES with justification and a table summarizing all monitoring results to date from existing monitoring points.

**Permit renewal:** The permit holder must apply for renewal of this permit at least 90 days prior to its expiration date. The permittee shall continue to comply with all permit conditions until the permit is renewed or the facility is properly closed, regardless of whether a renewal application has been filed.

**State statutes:** RSA 485-3, X (“New Hampshire Safe Drinking Water Act/Drinking Water Rules”, <http://gencourt.state.nh.us/rsa/html/indexes/485.html>), 485-A:1 and 13 (“Water Pollution and Waste Disposal”, <http://gencourt.state.nh.us/rsa/html/indexes/485-A.html>) and RSA 485-C:6 and 13 (“Groundwater Protection Act”, <http://gencourt.state.nh.us/rsa/html/indexes/485-C.html>)

**N. H. Code of Administrative Rules:** Env-Ws 1500 (“Groundwater Discharge Permit and Registration”, <http://www.des.state.nh.us/rules/ws1500.pdf>)

**Appeals body:** Water Council at RSA 21-0:7 (“Department of Environmental Services/Water Council”, <http://gencourt.state.nh.us/rsa/html/I/21-O/21-O-7.htm>; see also <http://www.des.state.nh.us/rules/env-wc200.pdf> and <http://www.des.state.nh.us/councils/#1>)

**Additional information:** Groundwater Discharge Permits Coordinator, (603) 271-2858  
N. H. DES, Water Supply Engineering Bureau, (603) 271-2513

N. H. DES, Public Information Center, (603) 271-2975 or (603) 271-8876

## Groundwater Discharge Permit – Work Sheet

**Key Qualifier Questions:** (1) Is there a discharge of domestic wastewater to a sub-surface disposal system with a design flow which is equal to or greater than 20,000 gallons per day (“gpd”)? (2) Is there a discharge of domestic wastewater to a subsurface disposal system(s) with combined design flow equal to or greater than 1,000 gpd for a single lot, which fails to meet the minimum nitrate setback distances to the property lines? (3) Does the applicant plan to construct or operate a rapid infiltration basin or an unlined wastewater, septage or sludge lagoon? (4) Does the discharge contain a regulated contaminant that has received treatment by best available technology before discharge to the ground or groundwater? (5) Is land to be used for the treatment of the wastewater (i.e., slow-rate spray irrigation)?

### What must you do to apply?

- Obtain a copy of the *Application for Groundwater Discharge Permit* from the DES Water Supply Engineering Bureau, DES Public Information Center, or at <http://www.des.state.nh.us/pdf/gwpermit.pdf>.
- Prepare descriptive information for wastewater conveyance, pretreatment, treatment, storage, and disposal.
- Obtain a U. S. Geological Survey map (7½-minute series, if available) and clearly identify the facility’s location on it (see <http://www.topozone.com>).
- For discharges of domestic wastewater, prepare a groundwater discharge zone map (using a tax map as a base) which identifies and locates such items as the groundwater discharge zone boundary, deeded easements which restrict the use of groundwater, properties, surface water bodies, drinking water supply sources, and source water protection areas within 1,000 feet of the groundwater discharge zone.
- Prepare a detailed and scaled facility plan (including a copy scaled to fit an 8½” by 11” or 11” by 17” sheet), stamped by a registered professional engineer licensed to practice in the state of New Hampshire.
- Prepare a table that summarizes all monitoring results to date from existing monitoring points.
- Prepare a list of reports on land use history, activities, water quality, and hydrogeology associated with the property on which the facility is located.
- Prepare a detailed proposal for a groundwater and surface water quality monitoring program, including such items as a proposed monitoring schedule, parameters to be analyzed, and justifiable monitoring locations.
- Provide notice to the community pursuant to RSA 541-A:39 (“Administrative Procedure Act/Notice to Municipalities”, <http://gencourt.state.nh.us/rsa/html/LV/541-A/541-A-39.htm>) and obtain proof that the notice was provided.
- Prepare an estimate of the construction time and the projected start-up date.
- Prepare a nitrate or contaminant movement study.
- For new sites, prepare a site-specific soil map and a description of the site’s geology.
- Contact the Natural Heritage Inventory Section of the New Hampshire Department of Resources and Economic Development to verify that no endangered or threatened plant species exist onsite (see <http://www.nhdfl.com/formgt/nhiweb/>; also see New Hampshire Fish and Game Department for rare, threatened, or endangered animal species at <http://wildlife.state.nh.us/nongameendlist.htm> or [http://www.wildlife.state.nh.us/nongame\\_page.htm](http://www.wildlife.state.nh.us/nongame_page.htm))
- Obtain test pit/boring log data with textural description, drilling methods, blow counts, and water table observations.
- Document that easement ownership rights (filed with the Registry of Deeds) will restrict the use of groundwater for drinking in the discharge zone.
- Provide the status of the DES Water Supply Engineering Bureau’s design plan approval and operations manual for the wastewater treatment system.
- Provide a copy of, or application for (if permit not yet issued), other DES approvals required for the project (i.e., Site Specific Permit, Septage Facility Permit, Dam Permit, Wastewater Treatment Plant Operator License, etc.).

- Submit a completed application, a check or money order for \$1,000 made payable to "Treasurer, State of New Hampshire", and all maps, plans, tables, proposed schedules, certification of notice, and any other supporting materials to: Water Supply Engineering Bureau, Water Division, New Hampshire Department of Environmental Services, 6 Hazen Drive, P. O. Box 95, Concord, NH 03302-0095. Telephone: (603) 271-2858; fax: (603) 271-5171; or online: <http://www.des.state.nh.us/dwspp/gwdisch.htm>

#### **What types of projects require this permit?**

- ❖ Rapid infiltration basins or unlined septage and sludge lagoons
- ❖ Discharge of domestic wastewater from a septic system designed for 20,000 gallons per day or more
- ❖ Land application (by spray irrigation or other means) of treated domestic wastewater onto a dedicated parcel
- ❖ Land application of septage derived from domestic wastewater or registered non-domestic wastewater
- ❖ Leaching wastewater lagoons or non-domestic wastewater treated with Best Available Technology ("BAT")

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If there are questions regarding this page or any other section of the Guidebook, please contact Tim Drew, Administrator, Public Information and Permitting Unit, at [tdrew@des.state.nh.us](mailto:tdrew@des.state.nh.us) or at (603) 271-3306.

## Groundwater Management Permit

**Introduction:** The DES Groundwater Management Permit was created to manage the long-term monitoring of sites where the state groundwater quality standards have been violated (see <http://www.des.state.nh.us/orcb/doclist/wm1403.pdf>). This permit is required for sites where uncontrolled releases to the environment have occurred through past disposal practices, floor drains, dry wells, leaking drums, leachate migration from unlined landfills, and leaking underground storage tanks. The permit calls for periodic groundwater quality monitoring and reporting to measure the effectiveness of groundwater remediation that also is required by the permit (through active measures or natural attenuation, see <http://www.des.state.nh.us/orcb/doclist/na-gw.pdf> / <http://www.des.state.nh.us/hwrb/hwrblink.htm#remediation>), specifies performance standards or remedies, and describes procedures for performing site investigations and implementing remedial action plans. Background guidance for these activities can be found in DES's **Risk Characterization and Management Policy** provided at <http://www.des.state.nh.us/orcb/doclist/rcmp.pdf>. More than 200 unlined landfills (mostly municipal) have been closed over the past decade in New Hampshire (see <http://www.des.state.nh.us/sw/swclosure.htm>), and virtually every closure process has included the characterization of existing groundwater quality (both natural and degraded), its subsurface spatial orientation and movement, and the development of a post-closure, long-term groundwater monitoring program (see <http://www.des.state.nh.us/sw/swpostclosure.htm>). The groundwater assessment and remediation process begins with a site characterization and investigation report, followed by the delineation of a groundwater management zone map and the creation of a remedial action plan. The outcome of the remedial action plan process (see <http://www.des.state.nh.us/hwrb/explanat.htm>) can be either a *Certificate of Completion*, issued after the plan's active components have been completed and specified performance standards have been achieved, or a *Certificate of No Further Action*, when the site no longer requires further oversight by DES, the remedial action plan has been completed, and the Groundwater Management Permit has been terminated for the site (see <http://www.des.state.nh.us/hwrb/versus.htm>).

**Average number of permits issued annually:** 15

**Fee:** \$1,000 (State and local government, including counties and other political subdivisions, are exempt from this fee.)

**Estimated processing time after application is deemed "complete":** 90 days

**Permit duration:** 5 years, and is subject to renewal

**Permit transferability:** Prior to the site ownership transfer, the permit holder must file with DES a written request and summary of all monitoring results to date. A *Groundwater Permit Transfer Application* may be accessed at <http://www.des.state.nh.us/orcb/doclist/transfer.pdf>. DES will issue a written decision in 90 days.

**Permit modification:** The permit holder, or consultant working on the permit holder's behalf, must submit a written request that discusses the modification being requested and the reason(s) for it, and must include a summary of all monitoring results to date. DES will issue a written decision within 90 days.

**Permit renewal:** If the activity requiring the permit will continue, the permit must be renewed (see <http://www.des.state.nh.us/orcb/doclist/renewal.pdf>). A renewal application must be filed 90 days in advance of permit expiration. Permit renewals are valid for five years.

**State statute:** RSA 485-C:6-a ("Groundwater Protection Act/Groundwater Management Zones", <http://gencourt.state.nh.us/rsa/html/L/485-C/485-C-6-a.htm>)

**N. H. Code of Administrative Rules:** Env-Wm 1403 ("Groundwater Management and Groundwater Release Detection Permits", <http://www.des.state.nh.us/orcb/doclist/wm1403.pdf>) (**Note:** These Env-Wm 1403 rules are in the formal rulemaking process to delete the groundwater management permit sections from Env-Wm 1403 and move them to Env-Wm 1600, effective late 2002 or early 2003.)

**Appeals Body:** Waste Management Council at RSA 21-O:9 (“Department of Environmental Services/Waste Management Council”, <http://gencourt.state.nh.us/rsa/html/I/21-O/21-O-9.htm>; see also <http://www.des.state.nh.us/rules/env-wmc200.pdf> and <http://www.des.state.nh.us/councils/#waste>)

**Additional information:** N. H. DES, Groundwater Management Permit Coordinator, (603) 271-2755 or (603) 271-0686  
N. H. DES, Hazardous Waste Remediation Bureau, (603) 271-3644  
N. H. DES, Oil Remediation and Compliance Bureau, (603) 271-2935  
N. H. DES, Public Information Center, (603) 271-2975 or (603) 271-8876

## Groundwater Management Permit – Work Sheet

**Key Qualifier Question:** Will your project involve the investigation, characterization, assessment, and remediation of a site where the state's ambient (natural) groundwater quality standards have been violated?

### What must you do to apply?

- Obtain a copy of the *Application for Groundwater Management Permit* from the DES Groundwater Management Permit Coordinator, DES Public Information Center, or access it online at <http://www.des.state.nh.us/orcb/doclist/gmp.pdf>.
- Provide the name and address of the site owner (permit applicant), property owner (if different from permit applicant), facility operator (if different from site owner), and contact person (if different from applicant/owner). Also provide a list of properties located within the groundwater management zone.
- Prepare a summary of the site investigation report.
- Prepare a summary of the remedial action plan and status of the remedial action performed to date.
- Prepare a groundwater management zone map (using a tax map as a base) which identifies and locates to the extent ascertainable the groundwater management zone boundary, any deeded easements which restrict the use of the groundwater within the zone, any streets and properties (including tax map/lot number) within 1,000 feet of the site, and any surface water bodies and lots with water supply wells (including type of use) within 500 feet of the groundwater management zone.
- Prepare a site plan in accordance with NH CODE ADMIN. RULE Env-Wm 1403.07(d)(5) (see <http://www.des.state.nh.us/orcb/doclist/wm1403.pdf>) and include the existing/proposed groundwater monitoring wells and drinking water wells to be monitored, and surface water sampling points. Prepare an 8½" x 11" (or 11" x 17") site plan that legibly depicts specific features required by Env-Wm 1403.07 and 1403.13. (**Note:** These Env-Wm 1403 rules are in the formal rulemaking process to delete the groundwater management permit sections from Env-Wm 1403 and move them to Env-Wm 1600, effective late 2002 or early 2003.)
- Prepare a table of current water level measurements in piezometers and monitoring wells used to create the groundwater contours.
- Prepare a table that summarizes all monitoring results for the last five years.
- Prepare an updated list of reports of investigation pertinent to the site.
- Prepare a detailed groundwater quality monitoring program with schedule/locations/sampling frequency.
- Prepare construction details for monitoring wells and top-of-casing elevations.
- Prepare a certification that application has been made to obtain all other local, state, and federal permits, and that notice to the municipality has been made pursuant to RSA 541-A:39 ("Administrative Procedure Act/Notice to Municipalities", <http://gencourt.state.nh.us/rsa/html/LV/541-A/541-A-39.htm>).
- Obtain documentation that site access rights have been obtained to conduct the remedial action.
- Obtain documentation that easement ownership rights have been acquired to restrict the use of water wells within the groundwater management zone.
- Within 60 days following DES approval of a remedial action plan, or within 60 days of a request by DES to submit an application, submit the completed application, a check for \$1,000 made payable to "Treasurer, State of New Hampshire", and all supporting information as noted above to: Groundwater Management Permit Coordinator, Site Remediation Programs, Waste Management Division, New Hampshire Department of Environmental Services, 6 Hazen Drive, P. O. Box 95, Concord, NH 03302-0095. Telephone: (603) 271-2755 or (603) 271-0680; fax: (603) 271-2181; or online: <http://www.des.state.nh.us/orcb/>

### What types of projects require this permit?

- ❖ The remediation of a former uncontrolled chemical disposal site or underground fuel tank site
- ❖ The long-term, post-closure monitoring of a formerly active, municipal unlined landfill or lagoon

- ❖ The cleanup of an industrial groundwater plume beneath an active manufacturing facility



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